

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P931029

Luminaire Tested: DFN2DS-SQ3F0-110DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931029
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-SQ3F0-110DS830-FLL
Description: 3 foot, Square Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

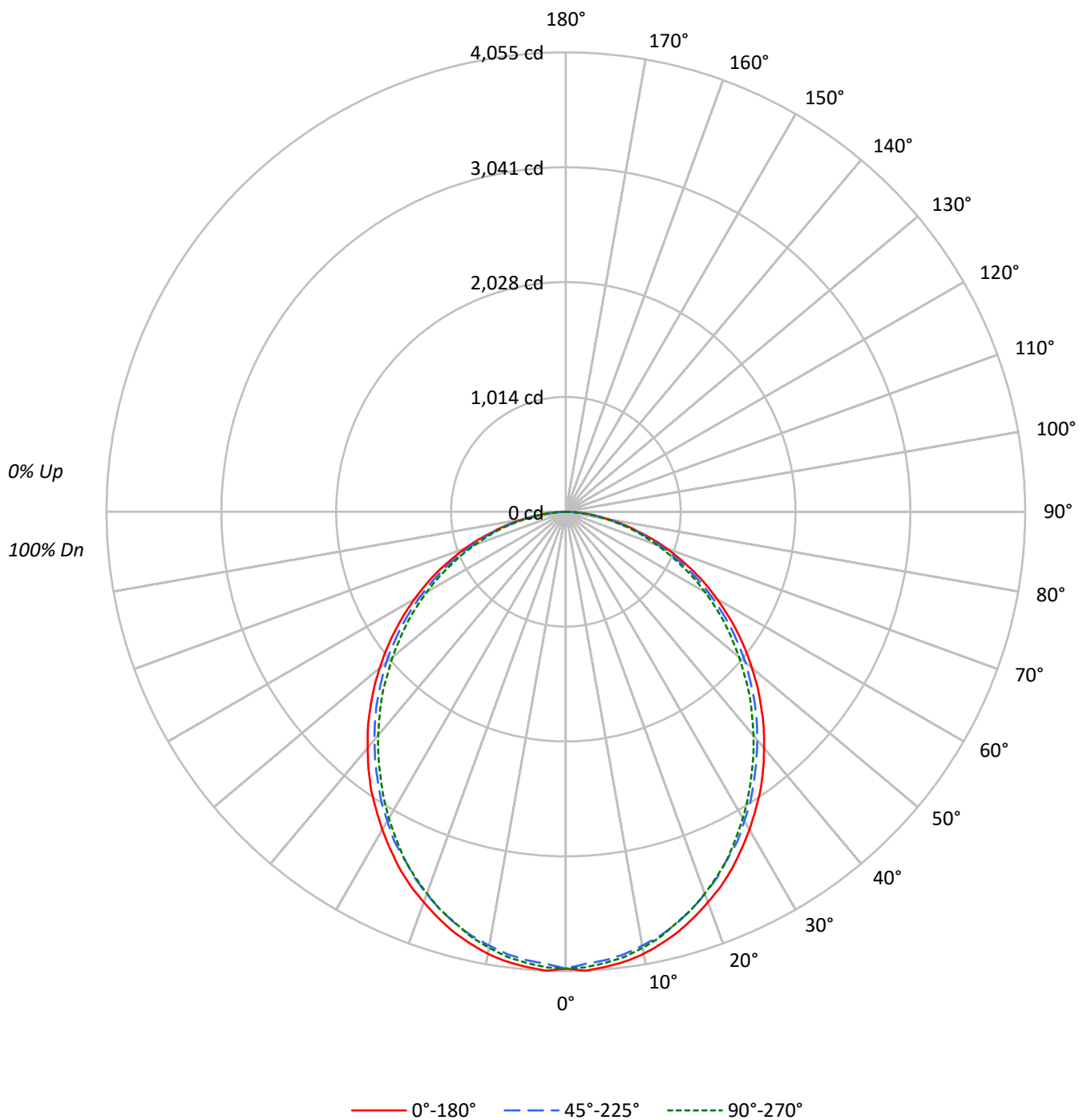
Lumens per Lamp: N/A
Luminaire Lumens: 10258.4 lumens
Efficiency: N/A
Efficacy: 87.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.06' x L: 3.06' x H: 0')
CIE Type: Direct

Input Watts (W): 117.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9977
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4620	4620	4620
5°	4637	4571	4598
10°	4610	4525	4547
15°	4553	4466	4461
20°	4472	4378	4373
25°	4392	4270	4270
30°	4288	4170	4134
35°	4192	4051	3991
40°	4071	3932	3856
45°	3952	3813	3719
50°	3822	3690	3559
55°	3687	3547	3416
60°	3536	3376	3252
65°	3375	3206	3059
70°	3170	3000	2858
75°	2882	2762	2695
80°	2560	2481	2353
85°	2088	1990	1784

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3952 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	379.5	3.7
10°-20°	1067.7	10.4
20°-30°	1569.1	15.3
30°-40°	1822.4	17.8
40°-50°	1820.2	17.7
50°-60°	1587.1	15.5
60°-70°	1173.3	11.4
70°-80°	663.8	6.5
80°-90°	175.2	1.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	3016.3	29.4
0°-40°	4838.8	47.2
0°-60°	8246.1	80.4
0°-90°	10258.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10258.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4032	4032	4032	4032	4032	
5°	4032	4017	3974	4005	3997	383
15°	3838	3815	3764	3780	3761	1081
25°	3474	3443	3377	3384	3377	1598
35°	2997	2958	2896	2873	2853	1872
45°	2439	2412	2353	2311	2295	1882
55°	1846	1822	1776	1729	1710	1650
65°	1245	1221	1183	1148	1128	1231
75°	651	644	624	601	609	695
85°	159	155	151	139	136	187
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4031.9	4031.9	4031.9	4031.9	4031.9
2.5°	4055.3	4036.0	3993.2	4031.9	4024.5
5°	4031.9	4016.7	3973.9	4004.7	3997.4
7.5°	4004.7	3981.7	3939.0	3970.2	3962.4
10°	3962.4	3935.2	3888.8	3919.6	3908.1
12.5°	3904.0	3880.9	3834.5	3853.8	3846.0
15°	3838.2	3815.1	3764.5	3780.2	3760.8
17.5°	3756.7	3733.7	3683.1	3702.4	3683.1
20°	3667.5	3644.4	3590.2	3601.6	3586.5
22.5°	3578.7	3543.6	3493.0	3493.0	3485.2
25°	3473.7	3442.9	3377.1	3384.5	3377.1
27.5°	3357.3	3330.2	3279.9	3268.5	3249.1
30°	3241.3	3210.1	3152.0	3140.5	3124.9
32.5°	3117.1	3094.1	3031.9	3008.5	2992.8
35°	2997.0	2958.4	2896.2	2872.7	2853.4
37.5°	2861.2	2826.3	2764.2	2737.0	2717.7
40°	2721.8	2690.5	2628.5	2593.9	2578.3
42.5°	2586.1	2554.8	2493.1	2454.0	2431.0
45°	2438.8	2411.6	2353.2	2310.9	2295.3
47.5°	2295.3	2268.1	2206.0	2163.2	2140.1
50°	2143.9	2124.6	2070.2	2016.0	1996.7
52.5°	1996.7	1969.4	1919.3	1876.5	1849.3
55°	1845.7	1822.2	1775.8	1729.2	1709.9
57.5°	1694.3	1675.0	1624.4	1577.8	1562.2
60°	1542.9	1527.7	1473.4	1430.6	1419.1
62.5°	1395.7	1368.5	1329.8	1291.2	1275.6
65°	1244.7	1221.2	1182.6	1147.6	1128.3
67.5°	1089.6	1069.9	1035.4	1008.2	992.6
70°	946.1	930.4	895.5	868.3	853.1
72.5°	798.8	783.2	763.9	736.7	725.2
75°	651.1	643.8	624.0	601.0	608.8
77.5°	519.5	503.9	496.1	484.6	473.1
80°	387.9	383.8	376.0	364.5	356.6
82.5°	263.7	263.7	260.0	244.4	244.4
85°	158.8	155.1	151.4	139.4	135.7
87.5°	69.9	62.1	54.3	42.8	38.6
90°	0.0	0.0	0.0	0.0	0.0

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	16.60	18.21	16.96	18.52	18.84	16.15	17.77	16.52	18.08	18.39
	3H	18.35	19.80	18.73	20.13	20.49	17.86	19.31	18.24	19.64	20.00
	4H	19.00	20.37	19.39	20.71	21.09	18.50	19.87	18.90	20.22	20.59
	6H	19.47	20.73	19.88	21.10	21.49	18.96	20.23	19.37	20.60	20.99
	8H	19.61	20.82	20.03	21.21	21.61	19.11	20.32	19.53	20.70	21.10
	12H	19.70	20.86	20.13	21.24	21.67	19.19	20.35	19.62	20.73	21.16
4H	2H	17.16	18.53	17.56	18.88	19.25	16.81	18.18	17.21	18.52	18.90
	3H	19.14	20.28	19.54	20.68	21.08	18.73	19.87	19.14	20.27	20.67
	4H	19.91	20.95	20.34	21.36	21.80	19.49	20.52	19.92	20.94	21.37
	6H	20.51	21.41	20.96	21.85	22.31	20.08	20.98	20.53	21.42	21.88
	8H	20.70	21.54	21.16	21.99	22.45	20.26	21.11	20.72	21.55	22.01
	12H	20.83	21.59	21.31	22.07	22.53	20.38	21.14	20.86	21.61	22.08
8H	4H	20.19	21.03	20.65	21.47	21.94	19.81	20.66	20.27	21.10	21.57
	6H	20.90	21.60	21.39	22.09	22.57	20.52	21.22	21.01	21.71	22.18
	8H	21.16	21.79	21.67	22.30	22.78	20.77	21.40	21.28	21.90	22.39
	12H	21.36	21.92	21.87	22.41	22.97	20.95	21.50	21.45	21.99	22.55
12H	4H	20.21	20.97	20.69	21.45	21.92	19.85	20.61	20.33	21.08	21.55
	6H	20.94	21.58	21.45	22.08	22.57	20.58	21.21	21.09	21.71	22.20
	8H	21.26	21.82	21.77	22.31	22.87	20.88	21.44	21.39	21.93	22.49